Aeronautics Research Mission Directorate and Open Government

Conduct Aeronautics Research for Societal Benefit

www.aeronautics.nasa.gov ☒ Transparency ☒ Participation ☒ Collaboration

The Aeronautics Research Mission Directorate (ARMD) uses a balanced research and development portfolio to explore early-stage innovative ideas, develop new air vehicle technologies and air traffic operational procedures, and demonstrate the potential of promising new vehicles, operations, and safety technology. Our goals are to expand aviation system capacity, enable fuel-efficient flight planning, reduce the overall environmental footprint of airplanes today and in the future, reduce delays on the ground and in the sky, and improve the ability to operate in all weather conditions while maintaining the current high aviation safety standards. We address research challenges that must be overcome in order to enable the Next Generation Air Transportation System (NextGen) and the vehicles that will operate within it. Partnerships and citizen engagement are essential to our research.

Overview

NASA's tradition of applied aeronautics research extends to the early years of the twentieth century, with the establishment of the National Advisory Committee for Aeronautics (NACA) in 1915. Until NASA's founding in 1958, the NACA was the nation's premiere federally funded aeronautics-research Agency. NASA ARMD continues our long and strong tradition of close and robust partnerships with industry, academia, and other government agencies. Citizen outreach likewise remains essential as ARMD is committed to participation and collaboration in all areas of aeronautics research.

Because partnerships are crucial, NASA ARMD has established mechanisms to engage academia and industry, including industry working groups and technical interchange meetings at the program and project levels. Additional key components include Space Act Agreements (SAAs) for cooperative partnerships with industry, and NASA Research Announcements (NRAs) that provide full and open competition for

NASA's ARMD and DASH*link*

https://dashlink.arc.nasa.gov/

Screenshot of DASHlink Webpage

DASH*link* is a virtual laboratory for scientists and engineers to disseminate results and collaborate on research problems in health management technologies for aeronautics systems. Web-2.0-style content generation and social-software technologies, along with a community-moderated posting policy, make it easier and faster for NASA aeronautics researchers and research partners to share data and knowledge with each other and the general public. Participants can upload technical projects to disseminate, collaborate, and innovate more easily both within NASA and beyond. DASH*link* connects researchers working in similar areas, permitting the upload of open-source algorithms and downloading of public data.

the best and most promising research ideas.

Cooperative partnerships with industry result in a significant pooling of resources for all partners. Currently, ARMD has in place 78 SAAs with different members of the aerospace industry. These collaborative opportunities have produced significant research results at the system level, where the expertise of industry and NASA come together to integrate technologies that could, one day, be incorporated into the nation's aircraft fleet. Since 2006, ARMD has awarded a total of 385 total NRA research efforts.

Fostering new generations of highly skilled scientists and engineers is critically important to the aeronautics community. As part of our commitment to furthering this field, we are restructuring our education program to focus investments on undergraduate and graduate education. The program aims to attract highly motivated undergraduate and graduate students to aeronautics and related fields.

How This Fits into Open Government

ARMD encourages collaborative research and development and the dissemination of aeronautics systems data, algorithms, and results to NASA, other agencies, and the public. Our community of researchers is broadened through the many collaborative partnerships with Federal Agencies, academia, and industry. This ensures that our research has the widest possible reach and impact.

Useful Links

1. NASA Aeronautics Programs: www.aeronautics.nasa.gov/programs.htm
2. NASA Aeronautics Research Announcements: www.aeronautics.nasa.gov/nra.htm
3. NASA Research Opportunities (NSPIRES): nspires.nasaprs.com
4. NASA Aeronautics Partnerships: www.aeronautics.nasa.gov/partners.htm
5. NASA Aeronautics Scholarships: nasa.asee.org/about_the_program